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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,015	03/25/2002	Hideki Fujiwara	F-7369	9145

28107 7590 09/09/2003

JORDAN AND HAMBURG LLP
122 EAST 42ND STREET
SUITE 4000
NEW YORK, NY 10168

EXAMINER

CHARLES, MARCUS

ART UNIT

PAPER NUMBER

3682

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,015

Applicant(s)

FUJIWARA ET AL.

Examiner

Marcus Charles

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-9, 11-15, 17-18 and 20 is/are rejected.
- 7) ☒ Claim(s) 7, 10, 16 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

This is the first action relating to serial application number 10/089,015 filed 03-25-2002.

Claims 1-20 are currently pending.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawing filed with this application has been accepted by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4-5, 11-12 14-15, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al.(5,517,957) in view of Kajihara et al.(5,607,240). Wagner et al. discloses a pulley unit (fig. 4) comprising a pulley body (42), a shaft body (50) concentrically disposed in the inner diameter side of the pulley, a one way clutch (48), interposed in the annular space between the hollow shaft body and the pulley body, a roller bearing (45) disposed in the annular spaced between the pulley body and the hollow shaft body such that the inner surface (44, 46) of the pulley body in the annular space and the outer surface of the shaft body in the annular groove forms the inner and outer raceway of the clutch and roller bearing, a seal ring (54, 55) disposed

on each axial end of the annular space, a retainer (not labeled) for accommodating each roller elements of the rolling bearing and the clutch. Wagner et al. does not disclose the retainer of the annular portion facing the side of the seal ring and the annular portion having an outer diameter side, which is reduced in diameter so as to increase the storage volume for lubricating oil. Kajihara et al. discloses a bearing unit comprising a bearing retainer (5) having a reduced outer diameter section (5w-a) in order to allow air to escape while allowing the axial movement of grease to the rollers more easily and freely. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the retainer of Wagner et al. so that the retainer has a reduced diameter in view of Kajihara et al. in order to allow air to escape while allowing the axial movement of grease to the rollers more easily and freely.

In claims 4-5, note the retainer (5) of Kajihara et al. is tapered.

In claim 17, note the roller bearing (49) and the ball bearing (46).

In claim 21, it is apparent that the outer diameter of the ball bearing (45) is set larger than that of the roller bearing (49).

5. Claims 3, 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al. in view of as applied to claim 1 above, and further in view of GB(2,330,884). Wagner et al. does not disclose a recess between the clutch and the roller. GB(2,330,884) disclose a pulley unit having a clutch (34) and a roller (43) in an annular space between a pulley body (1) and a shaft (20) and a recess in the inner surface of the outer raceway between the clutch and the roller in order to obtain easy access of the bearing. Therefore it would have been obvious to one of ordinary skill in

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the art at the time of the invention to further modify the inner surface of the pulley body of Wagner et al. so that it includes a recess between the clutch and the roller in view of GB(2,330,884) in order to obtain easy access of the bearing into the raceways.

6. Claim 6 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al. in view of Kajihara et al. as applied to claim 1 above, and further in view of Doi et al.(6,367,982). Wagner et al. and Kajihara et al. do not disclose that the roller is made from resin and includes oil. Doi et al. discloses a bearing comprising rollers (5) made from resin and that it is well known for such roller to include lubricating oil in order to reduce maintenance, reduce friction and improve the life span of the system.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the rollers of Wagner et al. to include rollers made from resin and including lubricating oil in view of Doi et al. in order to reduce maintenance, reduce friction and improve the life span of the system

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al.(5,517,957) in view of Kajihara et al.(5,607,240) and GB(2,330,884). Wagner et al. discloses a pulley unit (fig. 4) comprising a pulley body (42), a shaft body (50) concentrically disposed in the inner diameter side of the pulley, a one way clutch (48), interposed in the annular space between the hollow shaft body and the pulley body, a roller bearing (45) disposed in the annular spaced between the pulley body and the hollow shaft body such that the inner surface (44, 46) of the pulley body in the annular space and the outer surface of the shaft body in the annular groove forms the inner and outer raceway of the clutch and roller bearing, a seal ring (54, 55) disposed on each

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axial end of the annular space, a retainer (not labeled) for accommodating each roller elements of the rolling bearing and the clutch. Wagner et al. does not disclose the retainer of the annular portion facing the side of the seal ring and the annular portion having an outer diameter side, which is reduced in diameter so as to increase the storage volume for lubricating oil. Kajihara et al. discloses a bearing unit comprising a bearing retainer (5) having a reduced outer diameter section (5w-a) in order to allow air to escape while allowing the axial movement of grease to the rollers more easily and freely. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the retainer of Wagner et al. so that the retainer has a reduced diameter in view of Kajihara et al. in order to allow air to escape while allowing the axial movement of grease to the rollers more easily and freely.

In addition, Wagner et al. does not disclose a recess between the clutch and the roller. GB(2,330,884) disclose a pulley unit having a clutch (34) and a roller (43) in an annular space between a pulley body (1) and a shaft (20) and a recess in the inner surface of the outer raceway between the clutch and the roller in order to obtain easy access of the bearing. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the inner surface of the pulley body of Wagner et al. so that it includes a recess between the clutch and the roller in view of GB(2,330,884) in order to obtain easy access of the bearing into the raceways.

8. Claim 9 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al. in view of Kajihara et al. and GB(2,330,884) as applied to claim 7 above, and further in view of Doi et al.(6,367,982). Wagner et al. and Kajihara et al. doe not

disclose that the roller is made from resin and includes oil. Doi et al. discloses a bearing comprising rollers (5) made from resin and it is known for such roller to include lubricating oil in order to reduce maintenance, reduce friction and improve the life span of the system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the rollers of Wagner et al. to include rollers made from resin and including lubricating oil in view of Doi et al. in order to reduce maintenance, reduce friction and improve the life span of the system

Allowable Subject Matter

9. Claims 7, 10, 16 and 19 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brown et al.(1,583,276) disclose a pulley unit with bearing rollers (b) between the inner pulley surface and the outer shaft surface. Colanzi et al. (4,571,227), Nagaya et al.(6,471,023), Ouchi (6,257,385), JP(2001-4011) and JP(11-82688) disclose a pulley unit. DE(4322554) and FR(2,686,381) disclose a bearing unit.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus Charles whose telephone number is (703) 305-6877. The examiner can normally be reached on Monday -Thursday 7:30 am-600 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci can be reached on (703) 308-3668. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.


Marcus Charles
Primary Examiner
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